

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

VENKEE COMMUNICATIONS, LLC,

Plaintiff,

V.

TP-LINK TECHNOLOGIES CO., LTD.,
Defendant.

Civil Action No. 6:20-cv-88

JURY TRIAL DEMANDED

COMPLAINT

Plaintiff VenKee Communications, LLC (“Plaintiff” or “VenKee”) hereby brings this Complaint seeking damages and other relief for patent infringement, and demanding trial by jury, and alleges as follows:

THE PARTIES

1. VenKee is a Texas limited liability company having a principal place of business at 5068 West Plano Parkway, Suite 300, Plano, Texas 75093.

2. Defendant TP-Link Technologies Co., Ltd. (“TP-Link”) is a Chinese company with an address at South Building, No. 5, Keyuan Road, Central Zone, Science & Technology Park, Nanshan, Shenzhen, People’s Republic of China, Postcode: 518057.

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, Title 35 of the United States Code, 35 U.S.C. § 271 et seq. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 1338(a).

4. The Court has general and specific personal jurisdiction over Defendant because it conducts substantial business in the forum, directly and/or through intermediaries, including: (i) at least a portion of the infringing activity alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to persons in this District.

5. Plaintiff's cause of action arises, at least in part, from Defendant's contacts with and activities in this District and the State of Texas.

6. Defendant, directly and/or through intermediaries, imports, makes, uses, sells, offers for sale, ships, distributes, advertises, promotes, and/or otherwise commercializes infringing products in this District and the State of Texas. Defendant regularly conducts and solicits business in, engages in other persistent courses of conduct in, and/or derives substantial revenue from goods and services provided to residents of this District and the State of Texas.

7. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c). Venue is proper for Defendant in this District because venue in a patent infringement action against a foreign defendant is proper in any judicial district. Moreover, upon information and belief, Defendant has committed substantial acts of infringement in this District.

THE PATENT-IN-SUIT

8. U.S. Patent 7,916,684 entitled "Wireless Communication Network Providing Communication Between Mobile Devices and Access Points" was duly and lawfully issued by the U.S. Patent and Trademark Office on March 29, 2011 from Application No. 10/985,589, filed on November 11, 2004. A true and correct copy of U.S. Patent 7,916,684 as issued is attached hereto as **Exhibit A**.

9. U.S. Patent 7,916,684 was subsequently the subject of three *ex parte* reexaminations, including *Ex Parte* Reexamination 90/013,324 (the “’324 Reexam”). *Ex Parte* Reexamination takes a fresh look at the novelty and non-obviousness of all the subject patent claims without presuming validity. As of September 30, 2018, less than 15,000 of the approximately 10,000,000 U.S. patents issued over time have ever been reexamined. See https://www.uspto.gov/sites/default/files/documents/ex_parte_historical_stats_roll_up.pdf (last accessed January 30, 2020). VenKee’s Patent was therefore subject to more extensive and robust examination than usual.

10. Following these years of additional examination, the Reexamination Certificate for the ’324 Reexam was duly and lawfully issued by the U.S. Patent and Trademark Office on January 8, 2016. A true and correct copy of the ’324 Reexam Certification is attached hereto as **Exhibit B** and reflects the final patent claims including all three reexaminations.

11. By and through the *ex parte* reexaminations, claims 1, 6, 7, 13 and 19 of U.S. Patent 7,916,684 were determined to be patentable as amended, and claims 5, 11, 17 and 20, which each depend from an amended claim, were determined to be patentable. See **Exhibit B**, Col. 1:15-18. Claims 2-4, 8-10, 12, 14-16 and 18 were not reexamined. *Id.*, Col. 1:19. U.S. Patent 7,916,684 and the ’324 Reexam Certificate are referred to collectively herein as “the ’684 Patent.”

12. The ’684 Patent is directed to a wireless communication network that includes a plurality of access points configured as local access points that operate at one of a set of frequencies and within a communication range. The local access points may communicate with a mobile device within the local access point communication range. The wireless network further includes an access point configured as a master access point to communicate with each of the local access points at a frequency that is outside the set of frequencies of the local access points.

13. The '684 Patent identifies and addresses problems in the prior art. Specifically, the '684 Patent teaches that, in prior art networks, “the effective throughput of the network is substantially reduced as the user’s message travels over multiple ‘hops’ to get to the wired backhaul” and that “the effective network data rate drops rapidly as the number of hops increases.” **Exhibit A**, Col. 1:43-48.

14. The '684 Patent further identifies prior art problems including a “lack of frequency planning and channel allocation to separate the bandwidth of the AP-mobile messages and the backhaul messages between access points that carry the message back to the wired network.” **Exhibit A**, Col. 1:48-51.

15. The '684 Patent further identifies prior art problems including that “each access point has a single radio that is used to communicate with both the mobile users and the other access points in the network. The lack of available bandwidth for backhaul and frequency planning greatly limits the scalability of this mesh network architecture. As the mesh network is implemented over larger areas, a larger percentage of the total capacity (e.g., backhaul/mobile capacity) is used to transmit updates to the network routing status.” **Exhibit A**, Col. 1:52-59. The '684 Patent teaches technical solutions to these prior art problems, including using an “access point configured as a master access point to communicate with each of the plurality of local access points at a frequency that is outside the set of frequencies of the local access points.” **Exhibit A**, Col. 2:7-9.

16. The '684 Patent further teaches the technical solution of “having a master communication channel that is distinct from the local communication channels.” **Exhibit A**, Col. 2:16-19.

17. The '684 Patent further teaches the technical solution including “a first communication device (e.g., a first radio) corresponding to each of the local access points to communicate between the local access points and mobile devices . . . using the local communication channels” and “a second communication device (e.g., a second radio) corresponding to each of the local access points to communicate between each of the local access points and the master access point . . . using the master communication channel.” **Exhibit A**, Col. 2:20-30. The addition of a master access point communicating on a separate frequency addresses the prior art problems identified by the '684 patent, including those regarding network scalability, limited backhaul bandwidth, and effective frequency planning.

18. VenKee is the owner by assignment of all right, title and interest in and to the '684 Patent.

THE ACCUSED INSTRUMENTALITIES

19. Defendant manufactures, uses, sells, offers for sale and/or imports wireless communication network products, including its Deco products (e.g., AC2200 Smart Home Mesh Wi-Fi System Deco M9 Plus) which are a range of secure access points (“APs”) to a WLAN or other network designed for indoor use and all managed and secured directly via the Deco App (the “Accused Instrumentalities”).

20. A combination of Deco APs is used to achieve seamless whole home Wi-Fi coverage. Multiple Deco APs are combined to form a communication cell.

21. The Deco APs use a different set of frequencies to communicate with mobile devices than to communicate with each other.

22. The Accused Instrumentalities include Defenant’s AP products, related network infrastructure, and any substantially similar TP-Link networks and devices.

COUNT I – INFRINGEMENT OF THE '684 PATENT

23. VenKee repeats and realleges the allegations of all foregoing Paragraphs as if fully set forth herein.

24. TP-link has infringed and continues to infringe one or more claims of the '684 Patent, including at least exemplary claim 7, by making, using, selling and/or offering for sale, and importing within this District and elsewhere in the United States, the Accused Instrumentalities.

25. Claim 7 of the '684 Patent recites:

7. A communications cell for a wireless network using a common wireless communications protocol comprising:

- (a) a plurality of local access points, each local access point being configured to communicate with a mobile device within a respective wireless coverage area using the common wireless communications protocol and at a respective frequency from among a set of local access point frequencies; and
- (b) a master access point configured to
- (c) simultaneously communicate with a mobile device within a respective wireless coverage area using the common wireless communications protocol and at a respective frequency from among the set of local access point frequencies,
- (d) communicate with each local access point also using the common wireless communications protocol and at a frequency different from the set of frequencies of the set of local access point frequencies, and
- (e) provide either a wired or wireless backhaul communications link wherein each of the local access points comprises a first radio and a second radio, the first radio configured to communicate with the mobile device and the second radio configured to communicate simultaneously with the master access point, and each of the first radios is configured at a different frequency within the set of local access point frequencies and each of the second radios is configured at the frequency different from the set of local access point frequencies,
- (f) wherein simultaneous wireless communication occurs between (i) mobile devices and local access points, and (ii) local access points and the master access point using the different frequencies,
- (g) wherein said communications cell comprises one of a plurality of communications cells in a wireless network using the common wireless communications protocol, and each communications cell having a master

access point, wherein said master access points of the plurality of communications cells have alternating wired and wireless backhaul communications links.

26. Defendant infringes exemplary claim 7, for example, by its Deco AP products. The Deco AP system is a multiple access point wireless network that is managed centrally and uses common wireless communications protocols, such as 802.11 wireless protocols (*See Exhibit C*, https://static.tp-link.com/2018/201810/20181022/Deco%20M9%20Plus%201.0_Datasheet.pdf, **Exhibit D**, <https://www.businesswire.com/news/home/20180619005266/en/TP-Link%C2%AE-Expands-Mesh-Offerings-New-%E2%80%98Deco%C2%AE-M9>) and comprises:

27. Multiple Deco APs are combined to form a communication cell. One Deco AP acts as a “main” (master) AP while others are configured as slave APs. Each of the Deco APs can communicate with a mobile client device using a frequency in the 2.4 GHz frequency band according to the 802.11 wireless protocols. *See Exhibit E*, User Guide AC1200 Whole Home Mesh Wi-Fi System Deco M4/M4R/E4/E4R/W2400; **Exhibit F**, AC1200 Whole Home Mesh Wi-Fi System. The Deco APs can communicate with each other using a frequency in a dedicated 5 GHz frequency band according to the 802.11 wireless protocol. *See Exhibit G*, https://www.tp-link.com/us/home-networking/deco/deco-m9-plus/?utm_medium=select-local; **Exhibit H**, <https://www.tp-link.com/us/support/faq/1794/>.

(a) When multiple Deco APs are combined to form a communication cell, one of the Deco AP acts as a master Deco AP while others are configured as slave Deco APs. *See Exhibit H*, <https://www.tp-link.com/us/support/faq/1794/>.

(b) The main Deco AP can communicate with mobile client devices over the 2.4 GHz frequency spectrum band within the wireless coverage. The 2.4 GHz frequency spectrum band (2.40 GHz – 2.483 GHz) represents a set of local access point frequencies. Each Deco AP (main Deco AP and slave Deco AP) is able to simultaneously communicate with mobile clients

and other mesh access points. See **Exhibit G**, https://www.tp-link.com/us/home-networking/deco/deco-m9-plus/?utm_medium=select-local; **Exhibit C**, https://static.tp-link.com/2018/201810/20181022/Deco%20M9%20Plus%201.0_Datasheet.pdf; **Exhibit E**, User Guide AC1200 Whole Home Mesh Wi-Fi System Deco M4/M4R/E4/E4R/W2400; **Exhibit F**, AC1200 Whole Home Mesh Wi-Fi System.

(c) The main Deco AP can communicate with other mesh access points over a frequency in the dedicated 5 GHz frequency spectrum band using the 802.11 wireless protocols. The dedicated 5 GHz frequency spectrum band includes frequencies (5.15 GHz – 5.85 GHz) that are different from frequencies in the 2.4 GHz frequency spectrum band (2.40 GHz – 2.483 GHz). Each mesh access point is able to simultaneously communicate with mobile clients using a frequency in the 2.4 GHz frequency spectrum band and other mesh access points using a frequency in the dedicated 5 GHz frequency spectrum band. *See id.*

(d) Each Deco AP includes multiple radios, some of which can be configured to communicate with users over the 2.4 GHz frequency spectrum band. Other Deco AP radios can be configured to communicate with other Deco APs over a dedicated 5 GHz frequency spectrum band. The multiple radios in the Deco AP can be configured to communicate simultaneously with the mobile client devices and the other mesh access points. The Deco APs can also be interconnected via a wired ethernet connection. See **Exhibit H**, <https://www.tp-link.com/us/support/faq/1794/>.

(e) The Deco APs can simultaneously communicate with mobile devices using the 2.4 GHz frequency band and with other Deco APs (including the main AP) using the dedicated 5 GHz frequency band. *See id.*

(f) Deco APs can be configured in multiple cells, where cell 1 includes a main Deco AP and a plurality of slave Deco APs, and cell 2 also includes another main Deco AP and a plurality of slave Deco APs. Cell 1 and Cell 2 both use the 802.11 wireless protocols. In cell 1, the main Deco AP can include a wired backhaul communication link with other slave Deco APs, and in cell 2, the main Deco AP can include a wireless backhaul communication link to another slave Deco AP. See **Exhibit H**, <https://www.tp-link.com/us/support/faq/1794/>; **Exhibit I**, <https://www.tp-link.com/us/support/faq/1842/>; **Exhibit J**, User Guide: AC2200 Smart Home Mesh Wi-Fi System M9 Plus, https://www.tp-link.com/us/user-guides/deco-m9-plus_v1&v2/.

28. The foregoing structure, function and operation of the Accused Instrumentalities meets all limitations of at least exemplary claim 7 of the '684 Patent.

29. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without VenKee's license or authorization.

30. Defendant's unauthorized actions therefore constitute direct infringement of VenKee's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and VenKee is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '684 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

31. Defendant has had actual knowledge of the '684 Patent since at least the service of this Complaint.

32. At least as early as the service of this Complaint, Defendant indirectly infringes the '684 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of

the service of this Complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '684 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '684 Patent.

33. At least as of the service of this Complaint, Defendant also indirectly infringes the '684 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of this Complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '684 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of this Complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '684 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '684 Patent.

34. Defendant's infringement of the '684 Patent has injured VenKee and VenKee is entitled to recover damages from Defendant (or any successor entity to Defendant).

JURY DEMAND

VenKee hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff VenKee Communications, LLC requests that this Court enter judgment against Defendant and any other entity by and through which Defendant make, sell, use, offer for sale or import, or have made, sold, used, offered for sale or imported infringing Accused Instrumentalities as follows:

A. Adjudicating, declaring and entering judgment that Defendant has directly infringed the '684 Patent either literally or under the doctrine of equivalents;

B. Adjudicating, declaring and entering judgment that Defendant has induced infringement and continues to induce infringement of one or more claims of the '684 Patent;

C. Adjudicating, declaring and entering judgment that Defendant has contributed to and continue to contribute to infringement of one or more claims of the '684 Patent;

D. Awarding damages to be paid by Defendant adequate to compensate VenKee for Defendant's past infringement of the '684 Patent and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

E. Awarding VenKee pre-judgment and post-judgment interest; and

F. Awarding VenKee such other and further relief at law or in equity as this Court deems just and proper.

Respectfully submitted,

Date: February 5, 2020

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